

## TABLE OF CONTENTS

DISCLAIMER .....	ii
ACKNOWLEDGMENTS .....	iii
EXECUTIVE SUMMARY .....	iv
TABLE OF CONTENTS .....	ix
INTRODUCTION .....	1
Recovery Unit Designation .....	1
Status of Bull Trout at Time of Listing .....	2
Geographic Description .....	2
Fisheries Resources .....	8
DISTRIBUTION AND ABUNDANCE .....	10
Current Distribution and Abundance .....	10
REASONS FOR BULL TROUT DECLINE .....	17
Water Quality .....	17
Dams .....	18
Forest Management Practices .....	19
Livestock Grazing .....	21
Agricultural Practices .....	21
Transportation Network .....	22
Mining .....	24
Residential Development .....	24
Fisheries Management .....	24
Isolation and Fragmentation .....	27
ONGOING RECOVERY UNIT CONSERVATION MEASURES .....	29
STRATEGY FOR RECOVERY .....	33
Recovery Goals and Objectives .....	33

Recovery Criteria .....	39
Research Needs .....	43
ACTIONS NEEDED .....	45
Recovery Measures Narrative .....	45
IMPLEMENTATION SCHEDULE .....	61
REFERENCES CITED .....	73
APPENDIX A. Summary of Recovery in the Klamath Basin .....	81
APPENDIX B. List of Chapters .....	82

## **LIST OF TABLES**

Table 1.	Summer distribution of bull trout and nonnative brown or brook trout in the Klamath River Recovery Unit (adapted from Buchanan <i>et al.</i> 1997). . . . .	11
Table 2.	Estimated abundance of bull trout, spawners, female spawners, and effective population size in six Klamath River basin streams (adapted from Buchanan <i>et al.</i> 1997). . . . .	12
Table 3.	Nonnative fish species introduced into the Klamath River basin (ODFW 1997). . . . .	24
Table 4.	Completed, ongoing, and planned conservation measures of the Klamath Basin Bull Trout Working Group. . . . .	30
Table 5.	Summary of recovery criteria for the Klamath River Recovery Unit. Potential number of local populations, potential abundance, and future trend reflect minimum standards under recovered conditions. . . . .	39
Table 6.	List of existing and proposed local populations by core area in the Klamath River Recovery Unit. . . . .	40

## **LIST OF FIGURES**

Figure 1.	Bull trout recovery unit in the United States. . . . .	1
Figure 2.	Map of Klamath River Recovery Unit core areas. . . . .	3
Figure 3.	Distribution of bull trout in the Klamath River at time of listing. . . . .	5